end, coupled with the rule not to build one narrower than the clerestory, and with the fact that the *funds* were not sufficient to make the tower larger than it is, was the cause of the pinched-up proportion of the clerestory, while an idea of future side-galleries was the cause of the heavy-looking side aisles being combined with the said lank clerestory in the present church. If so, Mr. Stevens deserves more credit and less blame than most spectators will award to him. "SIBTE VIATOR."

STREET PAVING—SIR J. S. LILLIE'S IMPROVEMENTS.

A SPECIMEN of this improvement, which is a combination of wood and asphalte, patented by Sir John Lillie, has been just laid down opposite St. James's Church, in Piccadilly, and fully bears out the favourable accounts we had previously noticed of its success in France and other places, where it has been subjected for some time to severe tests. The advantages claimed for it over all other plans of paving heretofore in use, are economy, facility of laying down, and freedom from danger to horses. Much of the expense attending other descriptions of wooden paving has been occasioned by the removal of from 12 inches to 18 inches of existing surfaces of streets, and the substitution of foundations of fresh material, much inferior to those removed. In the present instance, this objection is got rid of by the patentee's availing himself of the existing surfaces of streets for foundations, and laying thereon a covering of the new combinations of materials before specified in the proportions, as near as we can judge, of equal parts of wood and asphalte. The wood is embedded in the cement in such a manner as to leave open spaces between the respective sections of wood, of about an inch in depth and width, which serve to carry off the water, and prevent that slipperiness which must necessarily result from blocks of wood when brought into close contact, except, perhaps, when shaped in the mode patented by Messrs. Crannis and Kemp, and described in one of our recent numbers.

The duration of *one* inch of wood used as pavement has been ascertained to average from fifteen to twenty years, and a surface which will last that time is all the public requires; there does not therefore appear to be any greater necessity for six or eight inches of wood for street covering than for six or eight carpets being laid at the same time for the covering of floors.

The various pieces which compose this specimen of street-paving were first cast in moulds at Cassel's asphalte manufactory, Mill Wall, Poplar, and then cemented together and secured by the same operation to the stone pavement, which forms the foundation.

A specimen of sections of wood only 1½ inch thick has been laid down opposite Cassel's manufactory, and has been exposed during the last summer to the heaviest traffic, without the least impression being made upon it.—*Mechanic's Magazine.*

HUNGERFORD SUSPENSION-BRIDGE.—It is intended to open this bridge in May next. The abutments on either side of the Thames, and the pier on the Hungerford side, are completed. The pier on the Lambeth side is expected to be finished by Christmas. The length from pier to pier will be 600 feet, the entire length of the bridge from the abutments on the Hungerford side to the opposite will be 1,440 feet. Its breadth in the "clear" will be about 14 feet, and its height from the water level to the footway, 28 feet. The height of each pier, from its basement to its top, will be nearly 100 feet. The links that compose the supporting chains are made of malleable iron, 700 tons of which will be necessary for the construction of the bridge. The property required for approaches has cost 13,000*l.*, and a contract has been made for the completion of the bridge at a cost of 80,000*l.* The total cost (including expenses incidental to the progress of the works, the Act of Parliament, &c.) will be 106,000*l.* The proprietors calculate that a net annual income of 3,010*l.* will be derived from tolls, being at the rate of 8 per cent. on the capital. 10,000 persons must cross the bridge daily to yield this sum.—*Times.*

SOCIETY OF ARTS.

NOV. 15.—W. Tooke, Esq., V.P., in the chair, read a communication, by Mr. Pellatt, on Elkington's process of Coating Iron with Zinc, Copper, &c. Several specimens of hinges, ornamental railings, &c., were laid on the table. Ordinary crystallized sulphate of zinc is dissolved in water, with a proportion of 1 lb. of the sulphate to one gallon of water, which forms the zinc solution. The iron to be zinced having been cleansed, by remaining for a short time in dilute sulphuric acid, and afterwards well scoured with sand, is placed in the zinc solution, and being attached to the negative pole of the galvanic battery (plates of zinc being connected with the opposite pole which face the articles in the solution), the deposit takes place. After being a short time in the solution the article should be taken out and brushed all over, so that any portion which may not have been properly cleansed, and to which the zinc has not perfectly adhered in consequence, may be discovered. It is then returned to the solution, and allowed to remain until a covering of the requisite thickness is obtained. In coppering iron, a solution is formed of ferro-cyanide of copper dissolved in the cyanide of potassium. When the iron to be coated has been cleansed, it is placed in this solution, heated to about 120 degrees and in connection with the battery. In from two to five minutes the article is coated with copper; it is then scoured with sand, and placed in an acid solution, when, if any portion of the iron is found to be uncovered with the alkaline solution, such part will turn black, and must then be cleansed and returned to the solution for one or two minutes. In order to test the adhesion of these metals, bolts of iron coated with copper have been driven through African oak twenty-four inches thick without at all disturbing the coating of copper; they have also been heated above redness, and then plunged into cold water, without any injury arising thereto from the difference of expansion and contraction of the metals.

THE POINTED ARCH.

IT has been often matter of surprise, as well as of remark, that the pointed arch, which is of far the most simple construction, and arises at once from the use of stones superimposed, and gradually projecting, should have been alike neglected by the Greeks, when they began to use arches, by the Romans, and the architects of the middle ages; while the circular arch, which requires at least the rudiments of geometrical science, was universally in practice. The fact, however, is notorious, and the use of the pointed arch has always been made the line of distinction between the Saxon and that which is usually termed the Gothic style of architecture.

This style was in the height of its glory in France during the 13th and 14th centuries, and in England during the 14th and 15th; after which period a taste for imitating the classical remains of antiquity became general, and the Gothic manner, having reached its perfection, was exchanged for a style not only recommended by novelty, but better suited to the alteration of the times, and the gradual increase in the price of labour.

Those three centuries, however, and that style on which a term of contempt has been so preposterously bestowed, have left fabrics that are still the boast and ornament of the principal cities of Europe. For whatever has been said of the exact proportions of Grecian architecture, the beautiful disposition of its parts, and the harmonious symmetry of the whole, ought not in reason to detract from our admiration of a Gothic cathedral. Sir Christopher Wren, it is true, called them "mountains of stone, vast and gigantic buildings indeed, but not worthy the name of architecture;" and adds, "that though not altogether naked of gaudy sculpture, trite and busy carvings, it is such as gluts the eye rather than gratifies and pleases it with any reasonable satisfaction." But to whatever theoretical explanation we refer the pleasure which the mind receives from architecture, whether to greatness of size, or to the uniform succession of the pillars and various members of the building conspiring to increase the idea of its magnitude; a Gothic structure may assert its claim to power over the imagination. Its height, its massive buttresses and stupendous pillars, with the defiance of labour displayed throughout the fabric, cannot fail to excite in the mind the sublimest ideas of magnificence and power. At the same time, the eye, accustomed to the picturesque, finds in the variety of the ornaments a compensation for that want of uniformity which the architect accuses; and in the numerous projections and varied lights for the ample relievo and swelling which is so deservedly celebrated in the examples of antiquity. Again, if we appeal from theory to the paramount judge in these matters, general taste and opinion, it will probably be allowed that in the metropolis, Westminster Abbey, though not the grandest of our cathedrals, divides the palm with the finest specimen of Grecian architecture which this country can boast.

NENE ESTUARY EMBANKMENT.

THIS extensive and important undertaking was designed for the purpose of enclosing from the sea a tract of most valuable land, amounting to about 4,000 acres, which will, when enclosed, be principally the property of the Commissioners of the Nene Outfall, under whose auspices the works are being carried into effect, and in which they are assisted by the professional services of that eminent engineer, Sir John Rennie. The embankment is nearly three miles and a half in length, and for some distance averages 28 feet in height, and at some parts of the line of works there is a depth at high tide of 14 feet. About one mile and three-quarters, or one-half the whole length, is already completed, and from this portion of the work, as a specimen, it is allowed by experienced persons that it will be one of the best examples of a sea-wall to be found in England. The land, it is estimated, will vary in value from 50*l.* to 80*l.* per acre, and as a maiden sod, would be a fine site for a model farm of one of the agricultural societies of England. The works are rapidly progressing under the superintendence of Mr. H. H. Fulton, resident engineer, and the contract, we understand, was taken in August, 1842, by Mr. Sharp, for 60,000*l.* The Nene Outfall Commission, composed as it is of some of the most public-spirited men of the day, headed by Mr. Tycho Wing, as chairman, has already effected great improvement in the condition of part of the Fens of Cambridgeshire and Lincolnshire, by producing a natural drainage for the lands in lieu of the inefficient and expensive system of drainage by windmills and other mechanical means, at the same time improving the navigation of the river Nene from the sea to Wisbech, to such an extent that whereas formerly Humber keels of 70 or 80 tons could with difficulty reach that port, now vessels of 400 or 500 tons can, without the assistance of a pilot, owing to the straightness of the channel, get up to Wisbech without the slightest difficulty. This navigation, as an artificial tidal channel, is said to be the finest of that description in the country. It was designed and executed under the direction of the late Mr. Thomas Telford and the present Sir John Rennie, and so important has been the result of these works, that the trade of the port of Wisbech has been trebled during the last ten years. In the course of last year it amounted to 140,000 tons of shipping, though the shipping trade was in a worse state in 1842 than it has been in for many years past.—*From a Correspondent.*

SIZE OF TREES.—Our native woods often contain noble specimens of which the bulk is ten or twelve feet in diameter, a width greater by three feet than the carriage way at Fetter-lane, near Temple Bar; and oaks might be named, on the block of which two men could thrash without one incommoding the other. The famous Greendale oak is pierced by a road, over which it forms a triumphal arch, higher by several inches than the poet's postern at Westminster Abbey. The celebrated table in Dudley Castle, which is formed of a single oaken plank, is longer than the wooden bridge that crosses the lake in the Regent's Park, and the roof of the great hall of Westminster, which is spoken of with admiration on account of its vast span, being unsupported by a single pillar, is little more than one-third the width of the noble canopy of waving branches that are upheld by the Worksop oak. The massive rafters of the spacious roof rest on strong walls, but the branches of the tree spring from one common centre. Architects can alone estimate the excessive purchase which boughs of at least 189 feet must have on the trunk into which they are inserted. Those of the oak of Ellerslie cover a Scotch acre of ground; and in the Threeshire oak its branches drip over an extent of 707 square yards. The tree itself grows in a nook that is formed by the junction of the three counties of York, Nottingham, and Derby.—*Ruins and Old Trees.*